



# Rectifier Diode

## Types W121CEC180 to W121CEC220

Development part number Wx587ED180-220

### Absolute Maximum Ratings

	VOLTAGE RATINGS	MAXIMUM LIMITS	UNITS
V <sub>RRM</sub>	Repetitive peak reverse voltage, (note 1)	2200-1800	V
V <sub>RSM</sub>	Non-repetitive peak reverse voltage, (note 1)	2300-1900	V

	OTHER RATINGS	MAXIMUM LIMITS	UNITS
I <sub>F(AV)M</sub>	Maximum average forward current, T <sub>sink</sub> =55°C, (note 2)	12100	A
I <sub>F(AV)M</sub>	Maximum average forward current. T <sub>sink</sub> =100°C, (note 2)	9020	A
I <sub>F(AV)M</sub>	Maximum average forward current. T <sub>sink</sub> =100°C, (note 3)	5690	A
I <sub>F(RMS)M</sub>	Nominal RMS forward current, T <sub>sink</sub> =25°C, (note 2)	21770	A
I <sub>F(d.c.)</sub>	D.C. forward current, T <sub>sink</sub> =25°C, (note 4)	19450	A
I <sub>FSM</sub>	Peak non-repetitive surge t <sub>p</sub> =10ms, V <sub>rm</sub> =60%V <sub>RRM</sub> , (note 5)	94.5	kA
I <sub>FSM2</sub>	Peak non-repetitive surge t <sub>p</sub> =10ms, V <sub>rm</sub> ≤10V, (note 5)	103.9	kA
I <sup>2</sup> t	I <sup>2</sup> t capacity for fusing t <sub>p</sub> =10ms, V <sub>rm</sub> =60%V <sub>RRM</sub> , (note 5)	44.7	kA <sup>2</sup> s
I <sup>2</sup> t	I <sup>2</sup> t capacity for fusing t <sub>p</sub> =10ms, V <sub>rm</sub> ≤10V, (note 5)	54.0	kA <sup>2</sup> s
T <sub>j op</sub>	Operating temperature range	-40 to +175	°C
T <sub>stg</sub>	Storage temperature range	-55 to +175	°C

#### Notes:-

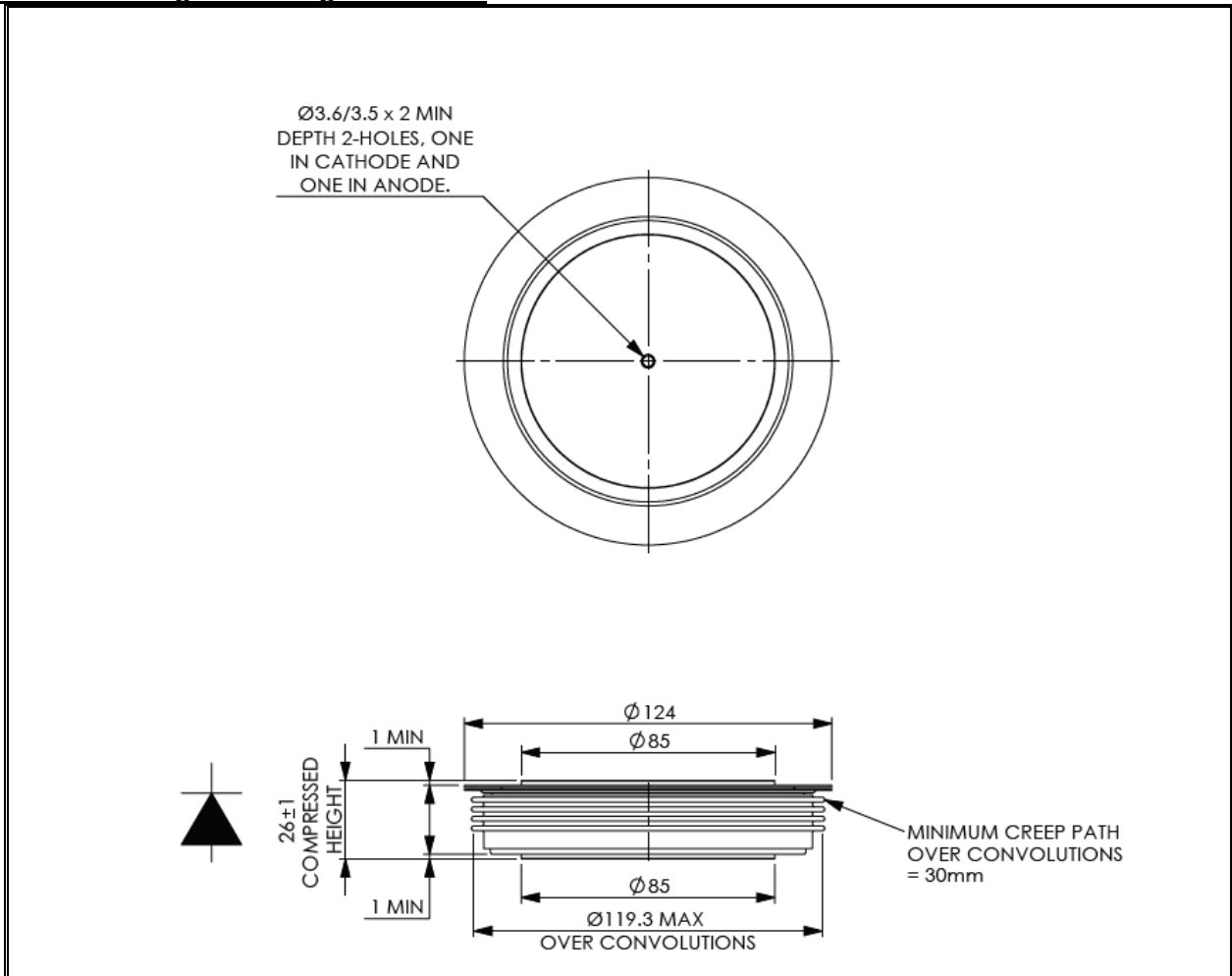
- 1) De-rating factor of 0.13% per °C is applicable for T<sub>j</sub> below 25°C.
- 2) Double side cooled, single phase; 50Hz, 180° half-sinewave.
- 3) Single side cooled, single phase; 50Hz, 180° half-sinewave.
- 4) Double side cooled.
- 5) Half-sinewave, 175°C T<sub>j</sub> initial.

### Characteristics

	PARAMETER	MIN.	TYP.	MAX.	TEST CONDITIONS (Note 1)	UNITS
V <sub>FM</sub>	Maximum peak forward voltage	-	-	0.99	I <sub>FM</sub> =6200A	V
V <sub>T0</sub>	Threshold voltage	-	-	0.726		V
r <sub>T</sub>	Slope resistance	-	-	0.042		mΩ
I <sub>RRM</sub>	Peak reverse current	-	-	150	Rated V <sub>RRM</sub>	mA
Q <sub>rr</sub>	Recovered charge	-	6500	7050		μC
Q <sub>ra</sub>	Recovered charge, 50% Chord	-	5600	-	I <sub>TM</sub> =2500A, t <sub>p</sub> =2000μs, di/dt=10A/μs, V <sub>r</sub> =100V	μC
I <sub>rm</sub>	Reverse recovery current	-	320	-		A
t <sub>rr</sub>	Reverse recovery time, 50% chord	-	35	-		μs
R <sub>thJK</sub>	Thermal resistance, junction to heatsink	-	-	0.005	Double side cooled	K/W
		-	-	0.010	Single side cooled	K/W
F	Mounting force	76	-	93	Note 2	kN
W <sub>t</sub>	Weight		2.2			kg

Notes:-

- 1) Unless otherwise indicated T<sub>j</sub>=175°C.
- 2) For other clamp forces, please consult factory.

**Outline Drawing & Ordering Information**

**ORDERING INFORMATION**

(Please quote 10 digit code as below)

<b>W121C</b>	<b>EC</b>	<b>◆◆</b>	<b>0</b>
Fixed Type Code	Fixed Outline Code	Voltage code $V_{RRM}/100$ 18 and 22	Fixed code

 Order code: W121CEC220 – 2200V  $V_{RRM}$ , 26mm clamp height capsule.

**IXYS Semiconductor GmbH**  
 Edisonstraße 15  
 D-68623 Lampertheim  
 Tel: +49 6206 503-0  
 Fax: +49 6206 503-627  
 E-mail: [marcom@ixys.de](mailto:marcom@ixys.de)



**IXYS**  
 A Littelfuse Technology

[www.littelfuse.com](http://www.littelfuse.com)
[www.ixysuk.com](http://www.ixysuk.com)
[www.ixys.com](http://www.ixys.com)

**IXYS UK Westcode Ltd**  
 Langley Park Way, Langley Park,  
 Chippenham, Wiltshire, SN15 1GE.  
 Tel: +44 (0)1249 444524  
 E-mail: [sales@ixysuk.com](mailto:sales@ixysuk.com)

**IXYS Long beach Inc**  
 2500 Mira Mar Avenue  
 Long Beach CA 90815 USA  
 Tel: +1 (562) 296 6584  
 Fax: +1 (562) 296 6585  
 E-mail: [service@ixyslongbeach.com](mailto:service@ixyslongbeach.com)

The information contained herein is confidential and is protected by Copyright. The information may not be used or disclosed except with the written permission of and in the manner permitted by the proprietors IXYS UK Westcode Ltd.

© IXYS UK Westcode Ltd.

In the interest of product improvement, IXYS UK Westcode Ltd reserves the right to change specifications at any time without prior notice.

Devices with a suffix code (2-letter, 3-letter or letter/digit/letter combination) added to their generic code are not necessarily subject to the conditions and limits contained in this report.



Disclaimer Notice - Information furnished is believed to be accurate and reliable. However, users should independently evaluate the suitability of and test each product selected for their own applications. Littelfuse products are not designed for, and may not be used in, all applications. Read complete Disclaimer Notice at [www.littelfuse.com/disclaimer-electronics](http://www.littelfuse.com/disclaimer-electronics).